CLAIMS

1. A computer readable medium encoded with instructions for executing the steps of:

receiving information about a driving cell from a layout tool;

receiving information about an interconnect from a layout tool;

determining buffer cell information based upon information about the driving cell and the interconnect by accessing a previously defined library lookup table; and

relaying the buffer cell information from the library look up table to the layout tool.

2. The computer readable medium of claim 1, wherein the step of receiving information about an interconnect includes receiving a net length.

3. The computer readable medium of claim 1, wherein the step of receiving information about an interconnect includes receiving hanging capacitance.

4. The computer readable medium of claim 3, wherein said hanging capacitance represents the capacitance of branches emanating from said interconnect, said interconnect electrically coupling said driving cell with a receiving cell.

5. The computer readable medium of claim 1, wherein the step of receiving information about a driving cell includes receiving input ramp time.

6. The computer readable medium of claim 2, wherein said determining buffer cell information further comprises:

selecting a predetermined net length from said

library lookup table;

comparing said net length with the predetermined net length; and

requesting, in the event said net length is greater than the predetermined net length, said buffer cell information.

7. The computer readable medium of claim 5, wherein said requesting said buffer cell information further comprises:

requesting at least one buffer cell location;

requesting at least one type of buffer cell; and

8. The computer readable medium of claim 5, wherein said requesting at least one type of buffer cell includes requesting at least one type of buffer cell as a function of the net length and a input ramp time.

9. The computer readable medium of claim 6, further comprising:

relaying to said layout tool said at least one buffer cell location, said at least one type of buffer cell, and said quantity of the type of buffer cell.

10. A method comprising

generating a library lookup table;

receiving information about a driving cell and an interconnect from a layout tool;

determining buffer cell information by accessing the library lookup table; and

relaying the buffer cell information from the library look up table to the layout tool.

11. The method of claim 10, wherein said generating a library lookup table includes empirically establishing said buffer cell information.

12. The method of claim 10, wherein said receiving information about said interconnect includes receiving a net length.

13. The method of claim 10, wherein said receiving information about said interconnect includes receiving hanging capacitance from said layout tool..

14. The method of claim 13, wherein said hanging capacitance represents the capacitance of branches emanating from said interconnect, said interconnect electrically coupling said driving cell with a receiving cell.

15. The method of claim 10 wherein said determining buffer cell information further comprises:
    determining at least one buffer cell location;
    determining a quantity of buffer cells; and
    determining at least one type of buffer cell.

16. A buffer insertion system comprising:
    a library lookup table;
    receiving means for obtaining information about a driving cell and an interconnect from a layout tool;
    buffer determination means for obtaining at least one type of buffer cell, a quantity of buffer cells, and a distance between buffer cells from the library lookup table based upon the net length and the driving cell information;
    sending means for delivering the type of buffer cell, a quantity of buffer cells, and a distance between buffer cells to the layout tool.

17. The buffer insertion system of claim 15, wherein said receiving means for obtaining information includes means for receiving a net length.

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18. The buffer insertion system of claim 16, wherein said buffer determination means includes:

means for selecting a predetermined net length from the library lookup table based upon said net length and said driving cell information; and

means for comparing said net length with said predetermined net length.

19. A buffer insertion system comprising:

a memory, the memory storing electronic design automation (EDA) software, an interconnect data set, a driving cell data set, wherein each of the interconnect and driving cell data sets have multiple data fields for storing data values, the interconnect and driving cell data sets stored in a library lookup table along with predetermined data relating the driving cell data set and the interconnect data set to predetermined buffer cell information;

a CPU connected to the memory, the CPU providing the predetermined buffer cell information to the electronic design automation software wherein the providing includes:

means for receiving a predetermined buffer cell information request from the electronic design automation software, the interconnect data set, and the driving cell data set;

means for selecting a predetermined buffer cell information from the database; and

means for sending the predetermined buffer cell information to the memory.